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Study of Textile-Based Toys In India: Prospects For Educational Segment Through Design Intervention

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Kakoli Biswas

Under the guidance of **Dr. Vibha Kalaiya**

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Unitedworld School of Design

KARNAVATI UNIVERSITY

Karnavati University, Gandhinagar

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Introduction

Toys are objects that are designed for play, often used by children. They can be made from a variety of materials such as wood, clay, paper, and plastic. While many items are specifically designed to serve as toys, everyday objects can also be repurposed for play. The origins of toys can be traced back to prehistoric times, with archaeological sites revealing “dolls representing infants, animals, and soldiers as well as representations of adult tools”. The term "toy" is “believed to have originated in the 14th century”. Although toys are primarily made for children, they can also be marketed to adults. “The oldest known doll toy is thought to be around 4,000 years old”.

Origin of Toys in India

Toys have been a part of Indian culture for thousands of years, “dating back to the Indus Valley Civilization around five thousand years ago”. Early toys were made of natural materials such as twigs, clay, and stones and included items such as bird-shaped whistles, sliding toy monkeys, and small carts. Neolithic sites dating back to around 7,500-3,500 B.C. have also yielded objects that may have been used as toys, such as stone and clay figurines of humans, animals, and various objects. “The Indus Valley civilization (c. 2,500-1,700 B.C.)” produced more complex toys made of clay, with separate limbs and heads joined together with string. Today, traditional Indian toys are still created in India with materials such as clay, wood, straw, bamboo, cloth, paper, and metal. These toys often depict stories from Indian epics such as the Ramayana and the Mahabharata, reflecting India's rich culture of storytelling.

A. **Wooden toys**: Wooden toys are made by specialized woodcarvers who chisel out an outline drawn on a piece of softwood with metal tools and then paper the final product. In cities, these toys are often painted and dressed in clothing, while those sold in villages are typically unpainted. Some of the most beautiful wooden toys are the *Kondapally* toys with painted and clothed figures and the *Gokak* and *Savantivadei* toys with forms of fruits and vegetables, all of which are found in southern India.

B. **Metal toys**: These are made of bronze and brass and manufactured using the lost-wax casting technique. A clay model mixed with sand and rice husks is created, and threads are fixed to the surface for details with a mixture of resin and wax. Then, the model is coated with wax, forming a mold around it. These toys are not painted and are more expensive, so they are not produced in large quantities. Some of the major manufacturing centers in India for metal toys are Bankura in West Bengal, Ranchi in Bihar, Sorponkhain in Orissa, Jagdalpur in Madhya Pradesh, and Swamimalai in Madras.

C. **Paper toys**: Various types of paper are used to make kites, balloons, lanterns, horns, flowers, and other toys. If required, frameworks are made of bamboo. Papier-mâché, consisting of a mixture of wastepaper, water, and about 25% sand and glue, is pressed into molds to make toys similar to those made of clay.

D. **Cloth toys**: Old cloth of various kinds is cut and sewn together as a hollow form in the shape of the desired toy and then filled with sawdust. Some toys are made up of separate parts that are stitched together. Figures are often dressed in intricate

clothes, and large cloth toys can be seen in puppet shows. People from villages buy these toys mainly at fairs and festivals, where craftsmen from various parts of the country display them. In big cities, temporary shops sell them. Machine-made toys of metal and plastic are now produced in large quantities, but they are more expensive and are rarely seen in the countryside.

Review of Literature

Toys have been an integral part of Indian culture for centuries, with local craftsmen creating unique and diverse products from “materials like plastic, wood, rubber, metal, and textiles”. This industry has been nurtured and enriched by India's rich intellectual heritage. The manufacturing of local toys is predominantly done by Small Scale Industries, which cater to the needs of the local market. The production process is labor-intensive and relies on the skills of master craftsmen and creative designers. Despite its long history and cultural significance, “the toy market in India remains largely unorganized and small relative to the population and per capita income”. As such, this literature review will focus on various aspects of the industry.

- Global Toy Industry scenario- how is the global toy industry poised, what are the market segments, the market leaders, etc?
- Global Toy Industry- what is the percentage of traditional toys globally?
- Indian Toy Industry scenario- What is the worldwide market share of the Indian toy industry?
- Indian Traditional Toy Industry status- What percentage of the market is made up of traditional Indian toys?
- Fabric toy Industry in India status- the presence of niche fabric-based toys within the gamut of traditional Indian toys.
- Explore the range of traditional handicrafts in India- state-wise.
- The linkage of traditional handicrafts in India with the toy industry and success rate.
- Case studies of successful fabric-based traditional toys of India.

Toy Industry: A Worldwide Scenario

- **Reportbuyer (2018)** reports that "the global toys market is projected to generate more than $120 billion in sales by 2023, with a CAGR of over 4%". The expansion of the market is driven by factors such as increasing household incomes and rising consumer confidence worldwide. The Asia-Pacific (APAC), Latin America, Middle East, and African regions are expected to offer lucrative prospects for market participants due to their economic growth. China, as the largest global producer of toys with over 70% of global production, plays a crucial role in the toys market. However, the export of Chinese toys may face challenges due to new import regulations in Europe, which could potentially impact the overall market dynamics. Sales of toys are distributed worldwide with America representing 41%, Europe at 29%, Asia/Oceania at 30%, and Africa at 1%. The preference of children for increasingly complex video games and electronic toys has had a notable impact on the industry in recent years (Reportbuyer, 2018). Children are also changing their toys more frequently, leading to increased demand for new and innovative products. As a result, toy and game producers need to focus on constant innovation and technological advancements to cater to evolving consumer preferences. "The demand for sustainable products has increased, and as a result, environmentally friendly items such as wooden baby toys, plastic-free games for youngsters, recycled plastic bath toys, and organic cotton stuffed animals are becoming increasingly popular". "The retail channel holds the majority market share, accounting for over 50% of total sales in 2017, and is expected to continue growing with a CAGR of over 2% during the projected period". This growth is attributed to sales in various retail establishments such as department shop, small chain shops, independent toy shops, catalogue retailers, and other untracked retail establishments.

Market segmentation by category includes dolls, games & puzzles, construction, outdoor & sports, and others. Age group segmentation includes 0-3 years, 3-5 years, 5-12 years, and 12-18 years. Distribution channels are segmented into retail, specialty stores, mass market players, other stores, and online. In conclusion, the global toys market is expected to witness significant growth in the coming years, driven by factors such as economic growth in key regions, changing consumer preferences, and emerging trends such as sustainability. Market participants, especially in regions like APAC, Latin America, Middle East, and Africa, are anticipated to find profitable opportunities. However, challenges such as new import regulations in Europe may impact the export of Chinese toys and subsequently affect the market dynamics. To stay competitive, toy and game producers need to focus on innovation and technological advancements, while also keeping in mind changing consumer preferences and sustainability trends. Retail remains the dominant distribution channel, and market segmentation by category, age group, and distribution channels provides insights for effective market targeting and strategies.

Indian Toy Market

The Indian toy industry has been discussed in a report by **ILO Consulting (2020).** The industry has been impacted by the "*Atmanirbhar Bharat"* mission, initiated by the Government of India during the first wave of the pandemic, as part of the Make in India scheme. The report highlights that the Indian toy industry has shown positive growth, with its market value reaching $1.23 billion in the financial year 2020, according to IMARC Group. Moreover, "it is expected to grow at a substantial Compound Annual Growth Rate (CAGR) of 12.2 percent during the next five-year, from 2021-2026". However, despite the availability of cheaper,

better-quality, and eco-friendly Indian toys, a significant portion of the market (70 percent) still comprises imported toys from China. This trend could be attributed to the preference for technologically advanced goods, which may overshadow the advantages of locally produced toys (ILO Consulting, 2020).

Jagwani (2020) discusses in SME times that the global toy market, estimated to be worth Rs 2-lakh-crore, is dominated by China in terms of manufacturing, while the US leads in consumption. “China sells toys for close to Rs 1.4 lakh crore yearly. 90% of the toys sold in India are unbranded Chinese goods, which are 90% of the market and do not adhere to safety, quality, or channel standards”. These Chinese toys are less expensive, which makes them a popular option for price-conscious Indian buyers. However, the market for branded toys is expanding, and major companies like Hamleys and Toys R Us have a significant presence with numerous locations all across the nation. These businesses target well-informed, indulgent parents who have more money available and are prepared to pay more for superior goods.Hamleys has 127 stores in India, while Toys R Us has 12 operational stores with aggressive growth plans for 2020 and beyond. In smaller towns with limited access to these physical stores, online e-commerce players like Amazon and Flipkart are bridging the gap through doorstep delivery (Jagwani, 2020).

As per **Gogna's (2020)** report, the Indian toy industry is estimated to be around US$ 38.1 billion in 2020, with a projected compound annual growth rate (CAGR) of 9.6% till 2023, as per Statista. “The country's toy industry has the support of Prime Minister Narendra Modi, who has also urged start-ups to work to make India a centre for toy production on a global scale”. However, the inflow of inexpensive imports has had a substantial impact on the toy business in India, calling for immediate policy attention. Consumption has grown as a result of the

variety of goods the Indian toy sector offers. Three categories can be used to roughly classify India's toy selection. The top toy brands from across the world are included in the first category; they account for roughly 15% to 20% of the market in India. These toys are renowned for their ingenuity, exorbitant costs, and features like music, light, robotics, artificial intelligence, and augmented reality. “The second group consists of brands created in India, which make up 15–20% of the market and provide simpler, less expensive toys with fundamental functionality. Unbranded low-cost imports, which account for 60–70% of the Indian toy market and are primarily imported from China, make up the third and largest group”. The unorganised wholesale toy sector is dominated by these unbranded toys.(Gogna, 2020).

IBEF(2020) in its report India toy story-an overview has said that India's toy sector shares less than 1% of the global market and is only estimated to be worth between Rs 5,000 and Rs 6,000 crore. It holds a 25% market share in India's toy business, with Chinese toys dominating the remaining 75%. Chinese toys, which began to overtake the Indian market following deregulation, have not always ruled it. Because they were unable to compete with toys manufactured in China, especially electronic toys, several toy factories have shut down in the last 30 years. With the aim of promoting the domestic toy manufacturing industry, the government is emphasizing region-specific toys, which can be found in well-known toy clusters spread over the country. In addition to having specific geographical characteristics, these toys benefit local toymakers. The authorities are encouraging the creation of new ideas and designs for toys, particularly for children with special needs, with a focus on environmentally sustainable toys. Participants are being encouraged to create non-toxic, eco-friendly toys, including those made of recycled or biodegradable materials.

ET online (2020) reported that India is a vast playground filled with many toys constructed of a wide range of materials, including wood, metal, rubber, polymer, fabric, fiber, and wood pulp. The historic toy manufacturing centers are Budni-Rewa in Madhya Pradesh, Kondapalli in Andhra Pradesh, Chitrakoot in Uttar Pradesh, and Channapatna in Karnataka. The crafts are being actively maintained by the craftspeople. Most Indian children had to make do with toys produced there until the 1980s. India obtained 90% of the toys it needed; the remaining 10% came from the US, UK, France, Italy, Japan, and Germany. Everything changed once the economy was opened up in 1991, even how kids played. Toys made in China started to overtake the market. Children were gravitating toward mechanised toys, which were primarily imported from China, even as wooden toys remained popular. India attempted to catch up but had little success as China emerged as the global capital of toys. Due to labour regulations, tax concerns, a lack of technology, and inadequate government incentives, no big industrial house entered the market. India's small-sized manufacturers made sure there were no economies of scale, in contrast to China's end-to-end, integrated manufacturing facilities. Today, China produces over 75% of the toys sold worldwide. Many Indian manufacturers stopped producing toys after 1991 and started selling foreign toys instead.

According to research by **NPC(2017)**, India has a significant number of domestic toy manufacturers, as well as a few major international players, with around 4000 producers in the toy business. The majority of these businesses are located in the small and cottage sectors, and the Indian toy sector is considered fragmented, with only 3% of firms being major players. “The manufacturing is centerd in Delhi, Mumbai, Punjab, Uttar Pradesh, Haryana, Tamil Nadu, and clusters across the central states”. Maharashtra, Uttar Pradesh, and Karnataka have the largest market shares in the toy industry, followed closely by Tamil Nadu, Gujarat, Telangana, and Andhra Pradesh. “The Indian toy industry is divided into two main market categories, the "organised" sector, which makes up around one-third of the market, and the "unorganised" segment”. The organised market is expanding more quickly than the unorganised sector, with around 35% annual growth compared to 15% for the unorganised sector. However, “only 20%

of the Indian toy market is catered to by domestic producers, with the remaining 80% being covered by imports of toys, primarily from China and Italy".

Voicedata Bureau (**2020)** reported that the opening of the Made in India toy store will help local, up-and-coming Indian businesses and manufacturers expand faster. The launch is consistent with the Government of India's strategy for maximising*Atmanirbhar Bharat's* potential. In India, a brand-new toy store has opened up, giving producers and vendors the chance to market and sell toys that are both innovative and locally created and produced. The launch of the store is aligned with the goal of the Indian Government for achieving "Atmanirbhar Bharat, or self-reliant India". The store will provide a boost to emerging Indian brands and local artisans, enabling them to grow their businesses. "The store's traditional Indian toys section includes toys that evoke childhood nostalgia, such as Chowka Bara, Pitthu/Lagori, and Lattu (wooden spinning tops), while the handmade toys section showcases handmade toys and dolls from karigars (craftspeople) in various Indian states, such as Channapatna, Thanjavur, and Varanasi, highlighting the pride in Indian craftsmanship and unique designs". This new store is expected to generate increased demand for locally made toys, providing sellers with opportunities for accelerated growth.

Tandon (2021) reported that guided by the overarching goal of self-reliance and a stronger domestic industrial base under the '*AatmaNirbha Bharat Abhiyan launched* by the Prime Minister in 2020, the 'Toycathon2021' invites innovative, dynamic solutions and participation from various stakeholders including start-ups, MSMEs, educational institutions and industry players, on ways to boost toy manufacturing in India.

The nine themes chosen for the 2021Toycathon were:

I. Indian culture, history, knowledge, ethos
II. Learning, education, and schooling
III. Social and human values
IV. Occupations and specific fields
V. Environment
VI. Divyang-friendly
VII. Fitness and sport
VIII. Out-of-the-box, creative and logical thinking
IX.Rediscovering/redesigning traditional Indian Toys

Ray (**2015**) in an article published on indiatimes.com discussed several traditional Indian games and toys that are in danger of being extinct. These include:

1. **Dugg Duggi:** A type of rattle, historically crafted from wood and leather but presently improvised using paper, consisting of a softened paper core that is wrapped with colored paper. The core of mud or stone balls or stones is tied to a stick, similar to a lollipop by threads at both ends. The mud balls or stones impact the centre of the rattle as it is shaken, creating sound.
2. **Traditional Indian Dolls**: Dolls made from plant shoots, cloth, and clay have a long history in India and were used not only as playthings but also in social and religious ceremonies. In northern India, clay dolls are used to celebrate *Janmashtami*, while in South India, dolls are displayed during the Dasara festival known as Bommai Kolu. "The Marapachi Bommai, the first wooden doll, is a traditional wedding gift given to a bride by her parents, and it is customary for a married woman to add at least one doll to her collection each year".
3. **Bagh-Chal: "**This classic board game originated in Nepal and involves the use of

logic and strategy". The game is played in two phases, with goats and tigers as the game pieces. Tigers must catch five goats in order to win.

4. **Bhatukli:** These are miniature representations of actual kitchenware and home objects and were traditionally made from copper and brass. Children used to play with these miniature utensils while observing their mothers and family members cook, providing insights into rural household life.
5. **Pachisi:** Pachisi is a popular cloth patchwork board game with four arms or limbs conjoined at the center known as 'Char Koni'. Each arm features three marked squares or 'castles', and the game set comes with 12 wooden pawns shaped like beehives in various colors. Players throw cowrie shells on the Char Koni to determine the movement of the pawns. The goal is to get all four pawns to complete the round of the board as quickly as possible. Pachisi has modern variations such as Ludo and American Parcheesi.
6. **Chauka Bara:** In this traditional race game akin to Pachisi, 2-4 players race their coins on a 5x5 square board to see who can get theirs to the innermost square first. Players are given four coins each and is allowed to move them at any time, therefore strategy is the essential ability needed to win.
7. **Ali Guli Mane:** Another game that has its origins in the Ramayana, and it was created by Rama for Sita to pass the time during her captivity. This game involves picking up seeds from cups and placing them in other cups in an anti-clockwise direction. If the last seed falls into a cup with an empty cup following it, the player captures the seeds in the following cup. This game is typically played on Shivratri in the southern states of India.

8. **Four-Handed Chaduranga:** This game, the forefather of contemporary Chess, is played by four players in two-player teams. Each player has 8 characters, including pawns, elephants, horses, and ships, and uses a single stick dice called *daala* for a chance.
9. **Puppets:** Puppets were used not just by skilled puppeteers, but also by parents to tell their children stories. Children utilised puppets to express their emotions and tell their own stories using lifeless things.

Problem Statement

In India, most toy manufacturers belong to the unorganized sector comprising medium to small-scale units and often not employing more than 5 employees. IManufacturers in India are skilled in creating a range of toys, including board games, soft toys, plastic toys, puzzles, and pull-along toys. “In addition to traditional toys like wooden carts, dolls, and unbranded plush toys, Indian consumers are now interested in a new range of toys inspired by global pop culture and social media trends”. India already has a rich tradition of handicrafts and the handicrafts industry is practically flourishing in each state of India. Indian handicrafts are demanded and appreciated worldwide widely for their traditional and regional arts .This research aims to identify the scope and acceptability of fabric-based toys in India. The study will provide knowledge on the way forward for the diversification of traditional handicrafts of India into the toy sector.

Aim

Study of textile-based toys in India: Prospects for educational segment through design intervention

Objectives of the study

The major objectives of the study are defined below:

1.1 To study the present status of the traditional textile toys sector of India.

1.2 To explore various techniques of traditional handicrafts used for the construction of textile

toys of the selected region(s).

1.3 To design and develop a range of textile toys for educational purposes.

1.4 To analyse the viability and consumer acceptance of the diversified textile toys.

Rationale

1. Within the toys industry in India, what is the scope of textile-based toys?
2. What is the level of acceptability of textile-based toys in India?
3. How to diversify traditional handicrafts of India into the educational toy segment?

Delimitations of the study

- The study is delimited to the Gujarat state only.
- The textile toys will be diversified for preschool children only for education purposes.

Methodology

1. Literature Review
2. Research Design

Phase 1 : Research on the toy industry's status and the handicrafts of India.
Primary data will be collected through personal interviews. The In-depth interviews with 40 relevant stakeholders using a semi-structured interview schedule will be conducted in Hindi, Gujarati, and English, depending on the needs of the person being interviewed.

The populations of this study are various stakeholders involved with traditional toys in India. The intended stakeholder population comprises those that are:

- Artisans/Craftsmen involved in the fabric-based toys
- Popular Toy house/studio in India selling fabric-based toys
- Online handicrafts store selling fabric-based toys
- State emporium /Cottage Department Officials
- Academicians- NID/NIFT/Children's University faculty

Secondary data will be obtained by reviewing relevant articles/research papers on the subject, news articles, and official documents.

Phase 2: Documentation of traditional toys

Explore the variety of fabric-based toys existing in the selected region. Identification of the rare & fabric-based dying crafts of the selected region for Product Diversification. Through primary research perform complete Documentation of the craft of the fabric-based toys in selected regions (Raw material, Technique, Process, Existing articles, Present Scenario, SWOT analysis). Also, identifying the needs of pre-schools and analysing the existing curriculum for amalgamation of integrated learning will help to design new products for kindergarten. The method for data collection will be personal Interviews, surveys and participatory observation.

Phase 3: Designing & Development of Textile toys

Based on the outcomes inferred from both primary and secondary data, experiments with new prototypes of fabric-based toys will be done. The products will be developed based on the requirement of the pre-schoolers and will be tested for their suitability and acceptance. Coupled with these findings and a literature review, a set of recommendations will be attempted for the fabric-based toys industry in India.

3. Data collection

The method of data collection will be personal interviews, case studies and observations. The data collected will be represented in the form of documentation.

4. Analysis of Result
5. Final Documentation

Expected Outcomes

Phase 1 - The secondary research about fabric-based toys in India, while the primary research will focus on interviews with kindergartens in Gujarat to understand their current range of educational toys and understand the prospects/viability of introduction of the new range of fabric-based toys

Phase 2 – Documentation on How fabric-based toys are conceptualised, their origin, their production process, costing, marketability, etc.

Phase 3 – Based on the feedback and comments of the kindergartens, design intervention in terms of a new range of fabric-based toys that can potentially be used as educational toys in the kindergartens.

References

1. ILO Consulting. (2020). An overview of the Indian toys industry.
2. Priyadershini, S. (2021, January 27). A look at the Indian toy industry as the National Toy Fair is set to begin next month. The Hindu
3. Gogna, N. (2020, September 14). India's Toy Story: Time to Write a New Chapter.
4. Jagwani, M. (2020, April 14). Current scenario of Indian toy industry and its future trends. SME Times.
5. UK Essays. (2015). Trends in toys industry in India marketing essay.
6. The Hindu. (2020, September 26). Aatmanirbhar Bharat in toy making. Blog.
7. Sanskriti IAS. (2020, September 1). Channapatna Toy Industry distress.
8. Drishti IAS. (2021, January 6). Toycathon 2021.
9. IMARC Group. (2021). Indian Toys Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2021-2026
10. Bhuvandeep & Sarkar, R. (2017). Indian Toy Industry market analysis and recommendations.
11. Indian Mirror. (n.d.). Indian Toy industry.
12. United Nations Industrial Development Organization (UNIDO). (2005). Technology Transfer and Trade: The Toy Industry in India.

13. Gandhi, G. P. (n.d.). Toying with ideas. Article/Market survey.
14. Ministry of Tourism, India. (n.d.). Toy Story Promotion of Indigenous toys of India.
15. Aditi, R. (2009). Handmade in India: Crafts of India. Mapin Publishing Pvt,Ltd.
16. Ray, S. (2015, June 29). 9 Traditional Indian Games and Toys on the Verge of Extinction. India Times.

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Signature:
Date:22/03/2023
Name of Scholar: Kakoli Biswas

Signature:
Date:22/03/2023
Name of Guide: Dr. Vibha Kalaiya